

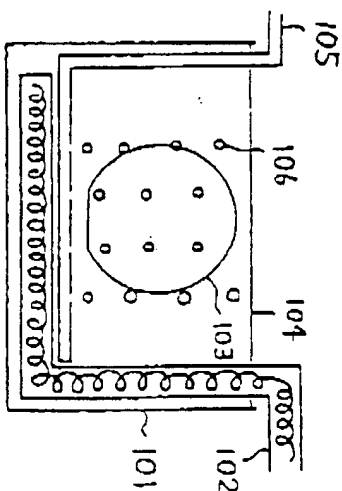
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## (54) MANUFACTURE OF SEMICONDUCTOR DEVICE

- (11) 4-79221 (A) (43) 12.3.1992 (19) JP  
 (21) Appl. No. 2-192712 (22) 20.7.1990  
 (71) SEIKO EPSON CORP (72) MASAFUMI HAGITA  
 (51) Int. Cl. H01L21/304

**PURPOSE:** To reduce cost, to improve producibility and to stabilize quality of a semiconductor device by cleaning a substrate surface while adding gas containing ozone to ammonia water solution.

**CONSTITUTION:** Mixture solution 104 of aqueous ammonia and pure water is heated by a heater 102 in a chemical solution tank 101. Gas containing ozone such as mixture gas 106 of ozone and oxygen is let out of a tube 105 which is introduced below the chemical tank 101 and is made to impinge on the surface of an Si substrate 103 for cleaning.



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## (54) CLEANING OF SEMICONDUCTOR SUBSTRATE

- (11) 4-79222 (A) (43) 12.3.1992 (19) JP  
 (21) Appl. No. 2-192723 (22) 20.7.1990  
 (71) SEIKO EPSON CORP (72) SEICHI IWAMATSU  
 (51) Int. Cl. H01L21/304